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NOTES AND LITERATURE.

ZOOLOGY.

The Halictine Bees of America.—Mr. J. Vachal has published the descriptions of a large number of supposed new American bees of the genus *Halictus*, in the *Bulletin de la Société Scientifique, Historique et Archéologique de la Corrèze* (France), July–September, 1904. As this publication is one not usually seen by American naturalists, it will be useful to give a list of the species, with the localities and some indication of their characters. This information follows herewith in tabular form. I have not thought it worth while, at present, to give the characters of all the Mexican species; but the table clearly separates all those of the United States.

Abdomen with bands of pale hair or tomentum on the apical margins of the segments	1.
Abdomen with bands or lateral patches of hair or tomentum at the bases of the segments	4.
Abdomen without distinct bands or spots of pale hair or tomentum on the apical margins or at the bases of the segments, but often more or less covered with fine pubescence	24.
1. Species without metallic tints	2.
At least the head or the thorax more or less metallic, with green tints	3.
2. Very large, 14 mm. long (British Columbia)	<i>procerus</i> , ♂.
Not over 11½ mm., allied to <i>H. parallelus</i> Say (Nevada)	<i>denticulus</i> ♂, ♀.
3. Species of Georgia, New York, Pennsylvania, British Columbia, and Illinois; closely allied to <i>H. tumulorum</i> L.	<i>nearcticus</i> , ♀, ♂.
Species of South America	<i>ochromerus</i> , ♀ (Brazil) and <i>citricornis</i> , ♂, ♀ (Chili).
4. Abdominal segments black or brown, the margins concolorous	5.
Abdominal segments with the apical borders more or less testaceous or reddish	9.
5. Posterior face of metathorax with a distinct, sharp border, at least at sides	6.
Posterior face of metathorax without such a border, the lateral margins rounded	8.

6. Smaller, length not over 7 mm. (Mexico) *linctus* ♀.
Larger, length 8 mm. or more ; females 7.
7. Species of Mexico . . *trichecus*, *transvorsus*, *capitulatus*, and *æquatus*.
Species of unknown origin, but closely allied to *H. pacificus* Ckll.,
with the size smaller ; the enclosure of metathorax shorter, with
finer striæ, etc. *citerior*.
8. Species of Mexico . . *crocoturus*, *trichicos*, *jubatus*, *circinatus*, *pharus*,
costalis, *spinalis*, and *pallicornis*, the last based on a ♂.
Species of British Columbia and Washington State ; ♀ 10½ mm. long,
black *egregius*.
Species of Colorado ; ♂ 7½ mm. long, black, the apical half of the
clypeus yellowish *colatus*.
9. Posterior face of metathorax with a distinct sharp margin . . . 10.
Posterior face of metathorax with the lateral margins at least partly
rounded 22.
11. Females 12.
Males 14.
12. Smaller, length less than 7 mm. (Mexico) . . . *respersus* and *laneus*.
Larger, length 7½ mm. 13.
Largest, length 8–8½ mm. ; black (South Carolina, New York,
Georgia) *crassus*.¹
13. Abdominal bands at bases of segments 1 to 3 entire (Colorado)
. *granosus*.
Abdominal bands reduced, segments 2 and 3 having only small grayish
spots on each side (Washington State) *occultus*.
14. Legs black (Mexico?) *adelipus*.
At least the tarsi partly yellow 15.
15. Labrum black (California ; a black species 8½ mm. long) *pullilabris*.
Labrum yellow or testaceous 16.
16. Mandibles black, at least basally, never yellow 17.
Mandibles more or less spotted with yellow 19.
17. Anterior tibia without a yellow stripe ; tubercles and tegulæ not
spotted with yellow (Colorado) *granosus*.
Anterior tibia striped with yellow ; tubercles and tegulæ with a yellow
spot 18.
18. Larger, length 9–9½ mm., face below the antennæ longer (British
Columbia) *arctous*.
Smaller, length 7 mm. ; face below the antennæ shorter (California)
. *nigridens*.
19. Tubercles dark ; face short, eyes converging below ; basal area of
metathorax almost semicircular, entirely occupied by irregular stri-
olæ ; length 7–7½ mm. (Colorado) *nigricollis*.

¹ *H. crassus* is said to differ from *H. similis* Sm., by its larger size, and the smoky yellow tint of the wings, and from *H. fulgidus* Crawf., by the color of the wings and the less punctured abdomen.

- Tubercles, tegulæ, and anterior tibia more or less tinged or marked with yellow 20.
20. Length 6 mm. or less; anterior tibia spotted with brown; sixth ventral segment of abdomen without an impression (California) . . . *gularis*.
Length $6\frac{1}{2}$ mm. or more 21.
21. Species of Mexico *aratus*.
Species of Colorado; all the tibiæ yellow *gelidus*.
22. Only the apical border of the abdominal segments pale 23.
Abdomen almost entirely reddish; 5 mm. long (Oaxaca, Mexico) *curtulus*.
23. Species supposed to be Mexican; black, head small . . . *bivarus*, ♀.
Species of Colorado, Nevada, and Vancouver I.; about 6 mm. long, shining black; face long; mesothorax and scutellum finely, densely punctured; enclosure of metathorax lunate, with fine, irregular, indistinct striæ; wings bronzy-hyaline, nervures yellow; male with labrum dark, and legs brown, without yellow or testaceous markings *diatretus* ♂, ♀.
24. Not metallic 25.
At least the head or thorax more or less metallic 26.
25. Posterior face of metathorax with a sharp border; black, head large; hind spur pale, with three sharp spines (Washington State) *furtus*, ♀.
Posterior face of metathorax with its lateral margins rounded, at least above; black, head small; length, ♀ $6\frac{1}{2}$ -7, ♂ 6 mm. (Mexico) *sertus*.
26. Species of South America
 beskei (Brazil), *autranellus* (Buenos-Aires), *pisinnus* (Chile).
Species of unknown locality; ♂ 7 mm. long, green . . . *lanifer*.
Species of Mexico 27.
27. Less than 7 mm. long *cubitalis*, *sudus*, and *terginus*.
Over 7 mm. long *biseptus*, *ectypus*, and *coactilis*.

T. D. A. COCKERELL.

Notes on Recent Fish Literature.—Mr. C. Tate Regan, of the British Museum, continues his varied series of fish studies by a number of short papers in the *Annals and Magazine of Natural History*. One of these, "The Phylogeny of the Teleostomi" (May, 1904), must challenge the attention of all palæontologists by its bold theory that the chondrosteian ganoids (*Palæoniscum*, *Acipenser*, *Polyodon*, etc.) are the most primitive of teleostomous fishes, and that they have given rise to the crossopterygians and dipnoans as well as to the ostracophores, arthrodires, and teleosts. After separating the still more primitive sharks, Mr. Regan divides the other fishes into five orders, Chondrostei, Crossopterygii, Placodermi, Dipneusti, and Teleostei. The Teleostei have sprung, in his scheme,